

REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 1-9 will remain pending in the application subsequent to entry of this Amendment.

In the Official Action the examiner questions enablement for “formula (VI*)” contending that this formula is not described in the specification nor is it enabled. Applicants disagree.

While it is true that formula (VI*) is not specifically depicted in the specification or the claims, the clear meaning of the intended structure will be apparent from step (d) of claim 1, namely it is the chiral amide that corresponds to formula (VI). The star has been added to indicate that the structure is chiral. Certainly one having ordinary skill in this art would appreciate the description of chiral amides included in the description of the invention including the specification and the claims and it appears there is some confusion caused by referring to a specific formula by number in claim 1. To advance examination reference to “of the formula (VI*)” has been deleted from claim 1, and the corresponding discussion in the specification at page 4, it being fully understood by one skilled in the art that it is the compound of formula (VI) that is converted to a chiral form.

It is respectfully submitted that the adjustments to the specification and claim 1 will resolve the examiner’s concerns and in no way detract from the description of the invention or the manner in which it is set out in the claims when viewed by one of ordinary skill in the art. Reconsideration is requested.

The Official Action also includes a rejection of alleged “obviousness” directed to all claims based upon a combination of a published U.S. application and counterpart U.S. patent to Higuchi et al in combination with an issued U.S. patent to Kondo et al. Applicants submit that this combination of prior art is illogical and in any event does not result in the claims now under review nor would one of ordinary skill in the art be suggested of the subject matter defined by applicants’ claims by the disclosures of these two documents should perchance they be considered together.

The present application discloses a process for producing chiral mercapto amino acids, including several steps and starting from an oxo-compound. As it is mentioned in the specification, it was an object of the invention to produce chiral amino acids in a simple and

cheap way realizing both high yields and high optical purity. This was achieved by selection of special ketones as precursors.

By choosing the appropriate ketones, the nitrile compound of formula (V) crystallizes and the equilibrium of the reaction is favorably influenced. The crystalline nitriles are produced in high yields (*see* example 5 with a 90% yield and example 6 with a 99.8% yield).

Higuchi et al teaches a process for preparing a 2- alkyl cysteinamide by hydrolyzing a 4 alkylthiazolidine-4-carboxamide.

Higuchi et al do not disclose that the selection of the precursors is essential for obtaining high yields. In fact, the yields obtained by Higuchi are low (*see* examples – production of 2- alkylcysteinamide).

Further Higuchi is completely silent about converting the racemic amide into a chiral form (step d of the present application) before preparing the chiral mercapto amino acid.

Kondo et al, the secondary reference, disclose a process for the reaction of an amino acid derivative with a thiol compound in the presence of a transfer catalyst to give a cysteine derivative. This is completely different from the reaction which is disclosed in the present application. Kondo is not properly combined with Higuchi and in any event the combination, illogical as it is, does not result in the process claimed by applicants.

According to the present invention an oxo-compound and a ketone are reacted in the presence of a phase transfer catalyst to give a (cyclic) thiazolidine compound. This is not only a substitution reaction but a ring forming reaction, too.

Therefore the disclosure of both documents together do not render the whole process – steps a) to d) obvious.


Reconsideration of this application is requested.

KOTTHAUS et al
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Respectfully submitted,

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